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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,501	07/22/2003	Riccardo Magni	2541-1009	6346

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EXAMINER	
MARC, MCDIEUNEL	

ART UNIT	PAPER NUMBER
3661	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/623,501	MAGNI, RICCARDO	
	Examiner	Art Unit	
	McDieunel Marc	3661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 January 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *22 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *1/29/2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-6 are presented for examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being obvious over **Newell** (U.S. Pat. No. **4,382,743**) in view of **Andou *et al.*** (***Development of the Construction Methods for Distribution Line Materials Using a Robot System Remotely Controlled from the Ground*, 1998**).

As per claim 1, Newell teaches " Loading apparatus with a tiltable and extendable fork carriage mounted thereon" substantially including an apparatus having telescopic arms for transfer of loads (see figs. 1 and 5), comprising: a first telescopic arm exhibiting a lower portion which is rotatably constrained about a first horizontal hinge axis arranged on a support base associated to a frame of a vehicle (see fig. 1); a first motor for rotating the first telescopic arm into a plurality of positions comprised between a lower horizontal position and a raised position of maximum inclination with respect to a horizontal position (see figs. 1-3), note that Newell contains a single telescopic arm, but fail to teach a second telescopic arm associated to an upper portion of the first telescopic arm; a terminal load support group for a load, which terminal load

support group is mounted on a front end of the second telescopic arm; wherein the upper portion of the first telescopic arm is aligned with a longitudinal axis of the first telescopic arm and the second telescopic arm is rotatably constrained to the upper portion about a second horizontal hinge axis which is parallel to the first hinge axis; and wherein it comprises a second motor for rotating the second telescopic arm about the second horizontal hinge axis.

Andou *et al.*, meets the deficiency of Newell by teaching " Development of the Construction Methods for Distribution Line Materials Using a Robot System Remotely Controlled from the Ground" wherein a second telescopic arm associated to an upper portion of the first telescopic arm; a terminal load support group for a load, which terminal load support group is mounted on a front end of the second telescopic arm; wherein the upper portion of the first telescopic arm is aligned with a longitudinal axis of the first telescopic arm and the second telescopic arm is rotatably constrained to the upper portion about a second horizontal hinge axis which is parallel to the first hinge axis; and wherein it comprises a second motor for rotating the second telescopic arm about the second horizontal hinge axis (see figs. 2-3 and pages 49-52).

It would have been obvious to a person of ordinary skill in the art at the time of the invention to modify the robot type of Newell with the robot type of andou *et al.*, because this modification would have enhanced Newell' s robot in order to introduce winch arm with a parallel link structure which provides easy access, thereby improving the efficiency and the reliability of the telescopic arms for transfer of loads.

As per claims 2, Andou *et al.* in combination with Newell teaches a robot, wherein the second motor rotates the second telescopic arm into operative positions comprised between a first extreme position, in which the second telescopic arm is aligned with the first telescopic arm and a second extreme position in which the second

telescopic arm is angled transversally with respect to the first telescopic arm (see Ansdou' s *et al.* figs. 2-3).

As per claim 3 Andou *et al.* in combination with Newell teaches a robot, wherein the terminal load support group of the load is rotatably constrained to the front end of the second telescopic arm about a third horizontal hinge axis which is parallel to the first hinge axis and to the second hinge axis, and characterised in that it comprises a third motor for rotating the support group about the third horizontal hinge axis (see Ansdou' s *et al.* figs. 2-3 as seen above).

As per claim 4, Andoue *et al.* teaches in combination with Newell a robot, wherein it comprises at least a first sensor for detecting angular displacements, associated to the first telescopic arm (see Andou' s *et al.* fig. 2, particularly the camera), at least a second sensor of angular displacements associated to the second telescopic arm, at least a third sensor of angular displacements, associated to the terminal load support group (see Andou' s *et al.* fig. 2, particularly the camera), and an electronic control unit for processing the data arriving from the first, second and third sensors and for emitting command signals at least to the third motor in order to maintain a constant angle for the load support group with respect to ground level when an inclination of the first telescopic arm and the second telescopic arm is varied (see fig. 2, particularly Andou' s *et al.* controller).

As per claim 5, Andiou *et al.* teaches in combination with Newell, a robot wherein the first, second and third motors (see fig. 2 of Andou *et al.*) comprise at least one hydraulic actuator for each hinge axis (see Newell' s col. 2, lines 30-43), note that the same above rational has been applied.

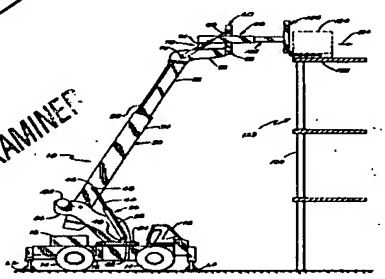
As per claim 6, Newell teaches a robot, wherein the support base is rotatable with respect to the frame of the vehicle about a vertical rotation axis (see fig. 1 and col. 3, lines 9-16).

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to McDieunel Marc whose telephone number is (703) 305-4478. The examiner can normally be reached on 6:30-5:00 Mon-Thu.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (703) 305-8233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

THOMAS G. BLACK
SUPERVISORY PATENT EXAMINER
GROUP 360



McDieunel Marc

Thursday, March 17, 2005

MM/

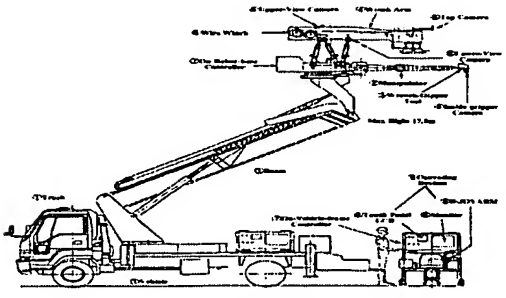


Fig.2 Robot Vehicle

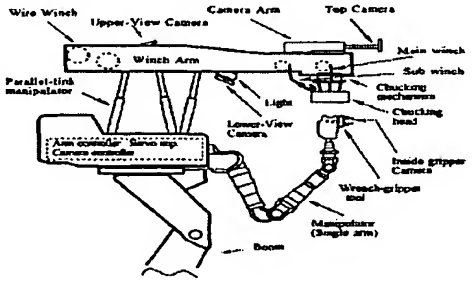


Fig.3 Robot system on the boom